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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,723	10/10/2003	Hifumi Nagai	F-7972	2025
28107	7590	11/04/2004		
JORDAN AND HAMBURG LLP 122 EAST 42ND STREET SUITE 4000 NEW YORK, NY 10168				
			EXAMINER ZIMMERMAN, JOHN J	
			ART UNIT 1775	PAPER NUMBER

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/683,723

Applicant(s)

NAGAI ET AL.

Examiner

John J. Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/189,043.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

FIRST OFFICE ACTION

Restrictions

1. The claims presented in this divisional application are the non-elected claims which were subject to a restriction requirement in parent application SN 10/189,043 filed July 3, 2002.

Claims 2-8 are pending in this application.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Certified copies of JP 2001-204018 and JP 2001-214464 have been filed in parent Application No. 10/189,043, filed on July 3, 2002. Certified translations of the priority documents were filed in the parent application on October 18, 2004.

Amendments

3. The Preliminary Amendment filed with this application has been entered. Claims 2-8 are pending in this application.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claim 4 recites the limitation "the organic compound" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 2-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7-8 (as amended March 8, 2004) of copending Application No. 10/058284 in view of Kawaguchi (U.S. Patent Application Publication 2002/0192460 A1). Although the conflicting claims are not identical since the claims of the copending application do not require an azole containing coating, they are not patentably distinct from each other because Kawaguchi clearly shows that it is well known in the art that the addition of azole coatings between copper foils and a resin in a printed circuit board improves the adhesion. In view of Kawaguchi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an azole containing coating on the copper foil claimed by the copending application in order to improve adhesion of the

copper/resin laminate. No patentable distinction over the claims of this pending application can be found in simply including an azole containing coating in the article claimed by the copending application. In addition, all the claims of this pending application do not require that the resin substrate must be a polyimide but they are not patentably distinct from each other because claim 5 of this application supplies this limitation. In any event, polyimide is a standard resin composition for printed circuit boards and the use of this particular resin would not be a patentable distinction over any generic recitation of a resin in the pending claims. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 2-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 (as amended May 13, 2004) of copending Application No. 10/193576 in view of Imaizumi (U.S. Patent 5,089,346) and further in view of Jodo (U.S. Patent 6,625,869) or Otsuka (U.S. Patent 6,476,330). Although the conflicting claims are not identical since the claims of this application may not recite forming the polyimide substrate with from a varnish containing polyamic acid, they are not patentably distinct from each other because using a varnish containing polyamic acid is a conventional method in the art of making polyimide films for printed circuit boards. Imaizumi is cited as evidence that this is a conventional method of forming polyimide films in the art (e.g. see column 7, lines 48-58). There is no patentable distinction between the two sets of claims since forming polyimide from varnish containing polyamic acid is conventional for printed circuit board manufacture. In addition, the thickness of the anticorrosive coating in this application falls

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within the range required by the pending application and therefore there is no patentable distinction between the two sets of claims. While the claims of the copending application may not require the same surface roughness as the pending claims in this application, Jodo (e.g. column 5, lines 44-52) and Otsuka (e.g. column 12, line 64 - column 13, line 7) clearly show that it is well known in the prior art to limit the surface roughness of copper foils in circuitry in order to avoid skin effects. In view of Jodo and Otsuka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit the surface roughness of the foils of the copending application in order to improve their electrical properties. There is no patentable distinction between the sets of claims of this pending application and the copending application because optimizing conductive foil roughnesses to avoid skin effects is standard in the art. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomioka (U.S. Patent Application Publication 2002/0179198) in view of Kawaguchi (U.S. Patent

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Application Publication 2002/0192460 A1) and further in view of Jodo (U.S. Patent 6,625,869) or Otsuka (U.S. Patent 6,476,330).

11. Tomioka '198 discloses conductors comprising a copper alloy foil containing 1-4.8% Ni and 0.2-1.4% Si which can be bonded to a polyimide layer and has a tensile strength of 650 MPa or more (e.g. see claim 1; Table 1). Specific conductivity values and tensile strength properties are found in Table 2. Tomioka may differ from the claims in that Tomioka may not require an azole containing coating. The Kawaguchi reference, however, clearly shows that it is well known in the art that the addition of azole coatings between copper foils and a resin improves the adhesion. In view of Kawaguchi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an azole containing coating on the copper foils of Tomioka in order to improve adhesion of the copper/resin laminate. There is generally recognized motivation in the composite art to improve adhesion in order to prevent delamination. No patentable distinction over Tomioka can be found in simply including a standard azole containing coating on the article claimed in the pending application. Tomioka may also differ from the claims in that Tomioka may not disclose limiting the surface roughness of his rolled copper foils to avoid reduction in conductivity due to skin effects. Jodo (e.g. column 5, lines 44-52) and Otsuka (e.g. column 12, line 64 - column 13, line 7), however, clearly show that it is well known in the prior art to limit the surface roughness of copper foils in conductive applications in order to avoid skin effects. In view of Jodo and Otsuka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit the surface roughness of the foils of Tomioka in order to improve their electrical conductivity. Since the

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copper foils are conductive members and Tomioka is clearly concerned with the conductivity, there is motivation for one of ordinary skill in the art to improve the conductivity. There is no patentable distinction between the claims of this pending application and Tomioka simply by optimizing conductive foil roughnesses in order to avoid skin effects is standard in the art and Tomioka clearly shows motivation to improve the electrical conductivities of his foils.

Regarding any properties of the copper foils that are not described but may be inherent in the copper foil products of the prior art (e.g. peel strength), Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Conclusion


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited references serve to further establish the level of ordinary skill in the art at the time the invention was made.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547.

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The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John J. Zimmerman
Primary Examiner
Art Unit 1775

jjz
October 29, 2004